WEST Search History

DATE: Saturday, September 13, 2003

Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT,PGPB,JPAB,EPAB,DWPI,TDBD; PLUR=YES; OP=ADJ			
L5	l1 and l2 and l3 and L4	21	L5
L4	bittern	916	L4
L3	calcium sulfate or caso?sub.4	31297	L3
L2	calcium chloride or cacl?sub.2	69674	L2
L1	brine	60117	L1

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L5: Entry 21 of 21 File: DWPI May 1, 2003

DERWENT-ACC-NO: 2003-482011
DERWENT-WEEK: 200345

TITLE: Recovery of common salt and marine chemicals from brine involves reacting hydrochloric acid with calcareous material including limestone, and washing provided crystallized salt with water

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PATENT-ASSIGNEE: COUNCIL SCI & IND RES (COUL)

PRIORITY-DATA: 2001WO-IN00185 (October 22, 2001)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 2003035550 A1	May 1, 2003	E	020	C01D003/06

DESIGNATED-STATES: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
WO2003035550A1	October 22, 2001	2001WO-IN00185	

INT-CL (IPC): C01 D 3/06; C01 F 5/10; C01 F 11/46

ABSTRACTED-PUB-NO: WO2003035550A
BASIC-ABSTRACT:

NOVELTY - Common salt and marine chemicals are recovered from brine 3-24 deg. Be by reacting hydrochloric acid with calcareous material including limestone. The brine is treated with provided calcium chloride. A desulfated brine is evaporated in solar pans, and crystallized salt is washed with water or dilute brine. Bitterns in solar pans are evaporated to crystallize crude carnallite.

DETAILED DESCRIPTION - Recovery of common salt and marine chemicals from brine 3-24 deg. Be comprises reacting 1-12 M hydrochloric acid (HCl) with calcareous material including limestone. The HCl is obtained from calcination of magnesium chloride of end bittern at 600-800 deg. C. The reaction is performed at ratio of limestone:HCl in 1:2 to prepare calcium chloride (CaCl2) of 100-600 g/L concentration required for desulfurization. The brine is treated with CaCl2 to produce granular calcium sulfate through a seeding process. The produced calcium sulfate is separated from brine and the desulfated brine is evaporated in solar pans up to 29-32 deg. Br so as to crystallize out the salt. The salt is washed with water or dilute brine to remove adhering chlorides of calcium and magnesium. Bitterns in solar pans are evaporated from density of 29 deg. Be' to 35.5 deg. Be' to crystallize crude carnallite and remove potassium chloride by known techniques. The recovered concentrated end bittern comprises magnesium chloride and enriched bromide. A part of the end bittern is solidified and calcined in 600-800 deg. C to produce solid magnesium oxide and HCl sufficient for recycling in the reacting step.

USE - For recovering common salt (e.g., potassium chloride, concentrated magnesium chloride with enriched bromide and high purity magnesia) and other marine chemicals (e.g., calcium sulfate with less than 0.5% chloride) from brine (e.g., sub-soil/sea brine of 3-24 deg. Be' density and sulfate concentration of 5-18 g/L measured at 16 deg. Be').

ADVANTAGE - The inventive method prepares high purity salt, particularly from subsoil brine. It includes simple washing of crystallized salt and has no extra cost. It maximizes salt productivity, minimizes requirement of desulfating chemicals and achieves the highest differential improvement in salt quality.

ABSTRACTED-PUB-NO: WO2003035550A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.0/0

DERWENT-CLASS: E33 E34
CPI-CODES: E11-Q01; E31-B03B; E31-B03D; E33-B; E34-B01; E34-B03; E34-D02; E34-D03;

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PALM INTRANET

WIPO Publication Data

International Application Number
(Example: PCT/AT00/00162, AT00/00162 or AT0000162)
Search

International Publication Number
(Example: 200079061 or WO 00/79061)
Search

Results:

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Publication Date: **05/01/2003**
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